

# Supporting Information for

## Colloidal quantum dot inks for single-step-fabricated field-effect transistors: the importance of post- deposition ligand removal

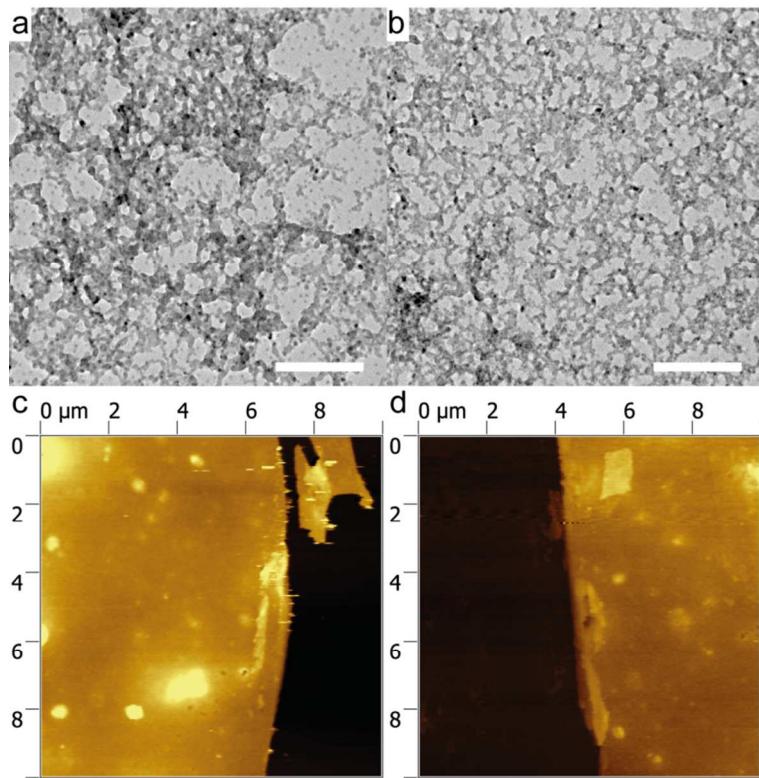
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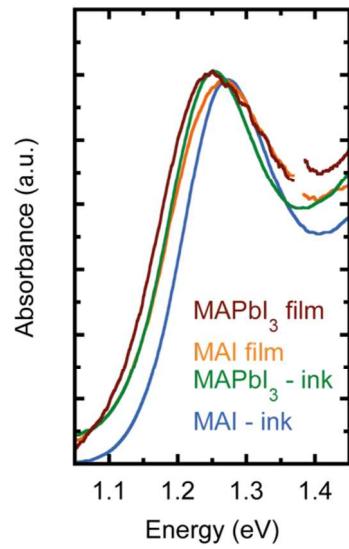
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**Figure S1.** TEM images of (a) pristine and (b) washed PbS-MAPbI<sub>3</sub> CQD assemblies, the scale bars are 100 nm; AFM images of (c) pristine and (d) washed PbS-MAPbI<sub>3</sub> thin films.



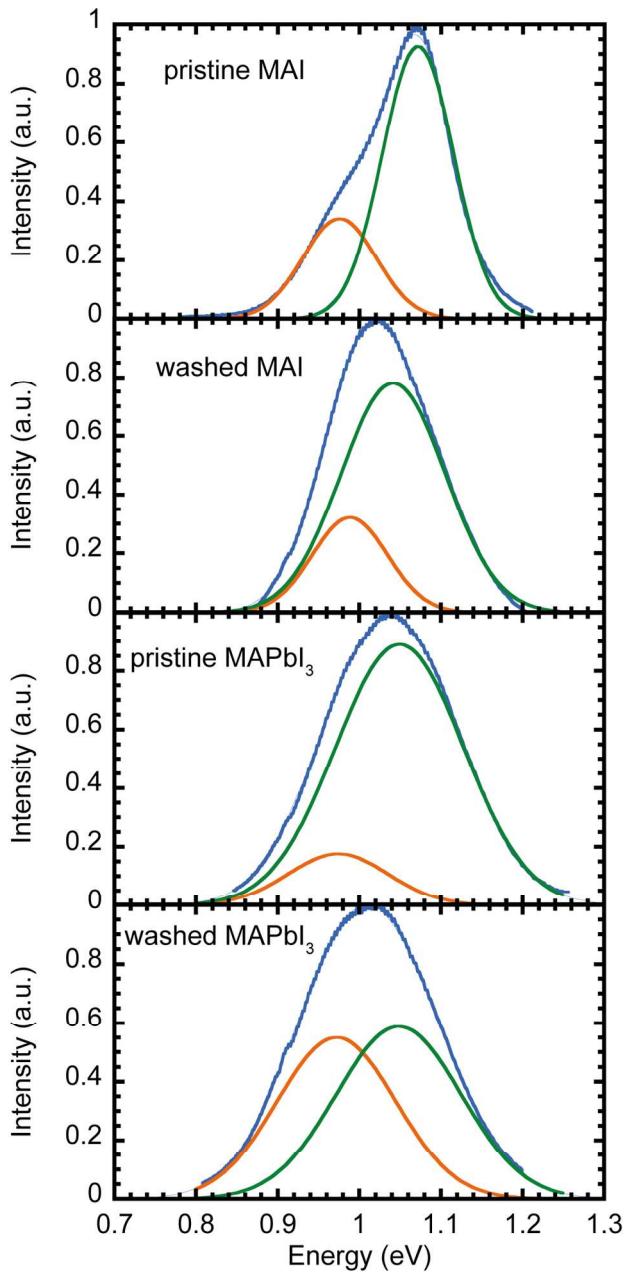
**Figure S2.** Absorbance spectra of the PbS-MAI and PbS-MAPbI<sub>3</sub> inks before and after deposition.

Sample	treatment	Abs (eV)	A <sub>1</sub>	E <sub>1</sub> (eV)	w <sub>1</sub> (eV)	A <sub>2</sub>	E <sub>2</sub> (eV)	w <sub>2</sub> (eV)
<b>PbS-MAI</b>	pristine	1.27	0.34	0.98	0.045	0.93	1.07	0.044
	washed	1.26	0.32	0.99	0.046	0.78	1.04	0.064
<b>PbS-MAPbI<sub>3</sub></b>	pristine	1.26	0.18	0.97	0.061	0.89	1.05	0.078
	washed	1.25	0.55	0.97	0.073	0.59	1.05	0.077

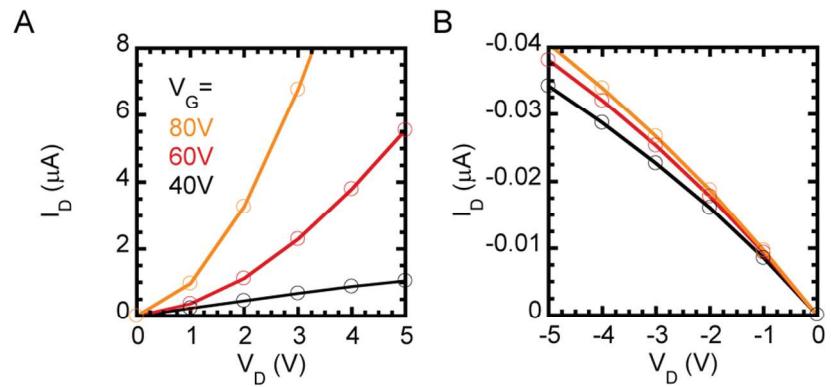
**Table S1.** Absorption peak positions and parameters of double Gaussian fits to the steady-state PL data of films prepared from PbS-MAI and PbS-MAPbI<sub>3</sub> inks, with and without washing in MeOH.

Sample	treatment	τ <sub>1</sub> (ps)	τ <sub>2</sub> (ps)	τ <sub>1</sub> weight (%)	τ <sub>eff</sub> (ps)
<b>PbS-MAI</b>	pristine	146	1086	0.41	296
	washed	131	655	0.53	211
<b>PbS-MAPbI<sub>3</sub></b>	pristine	144	1056	0.41	294
	washed	119	807	0.40	245

**Table S2.** Lifetimes of the PL decay in films prepared from PbS-MAI and PbS-MAPbI<sub>3</sub> inks, with and without washing in MeOH.



**Figure S3.** Double Gaussian fits to the thin film PL spectra.



**Figure S4.** Low drain, high gate bias output curves in the (a) n-channel and (b) p-channel showing injection barrier for electrons, but not for holes.